Smart Energy & Power Quality Solutions



Multifunction Module 800-MF8

Data sheet

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Janitza

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(Suitable for basic devices of the 800 series -
suitable basic devices see user manual of the module)

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The German version is the original version of the documentation.

Subject to technical changes

The content of our documentation has been compiled with the utmost care and is based on the latest information available to us. Nevertheless, we would like to point out that the updating of this document cannot always be performed simultaneously with the further technical development of our products. Information and specifications can be changed at any time.
Please consult www.janitza.com for information on the current version.

Device views

- The figures serve as illustrations and are not true to scale.
- Dimensions in mm (in).

Front view



INFORMATION

The dimensions of the device/module vary depending on the connection terminals used.

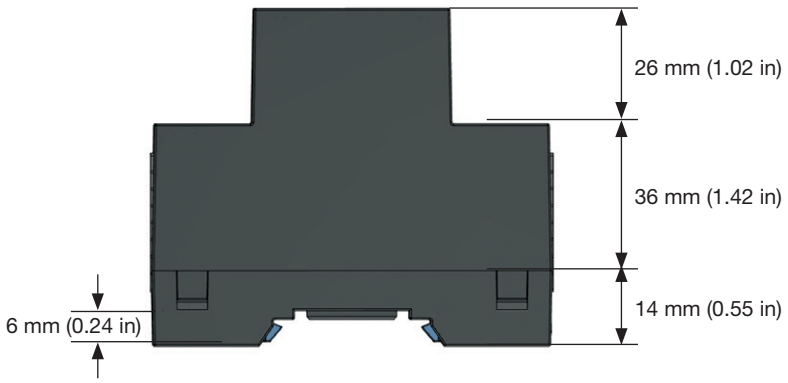
View from below



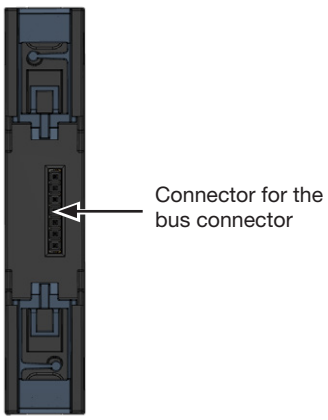
View from above



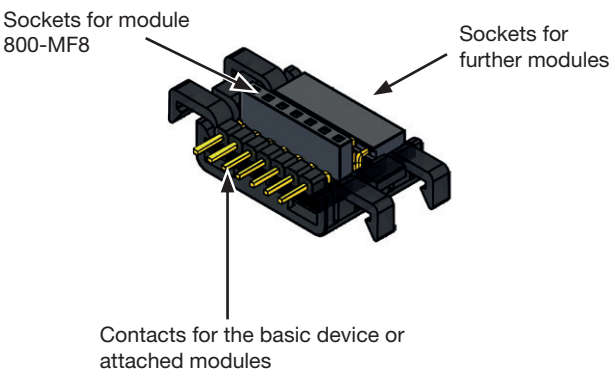
View from the left



Rear view



Communication bus connector for the module 800-MF8



Technical data

General	
Net weight (with terminals)	73 g (0.16 lb)
Device dimensions (without connection terminals)	B = 18 mm (w = 0.71 in), H = 90 mm (h = 3.54 in) , T = 76 mm (d = 2.99 in)
Width of the device in horizontal pitches	1 HP (1 HP = 18 mm / 0.71 in)
Mounting orientation	As desired
Fastening/mounting - suitable DIN rails (35 mm / 1.38 in)	· TS 35/7,5 according to EN 60715 · TS 35/10 · TS 35/15 x 1,5
Protection against foreign matter and water	IP20 according to EN60529
Impact resistance	IK07 according to IEC 62262

Transport and storage The following specifications apply to devices transported and stored in the original packaging.	
Free fall	1 m (39.37 in)
Temperature	-25 .. +70 °C (-13 .. 158 °F)
Relative humidity	5 .. 95 % at 25 °C (77 °F) non-condensing

Environmental conditions during operation	
The module · only operate with suitable basic devices (see user manual of the module). · must be used indoors in a fixed location that is protected from the weather. · possesses protection class II according to IEC 61010-1, a ground wire connection is not required.	
Working temperature	-10 .. +55 °C (14 .. 131 °F)
Relative humidity	Decreasing linearity: at 31 °C (88 °F) max. 80% at 40 °C (104 °F) max. 50% (non-condensing)
Operating elevation	Up to 4000 m (13,123 ft) above sea level
Pollution degree	2
Ventilation	No forced ventilation required
Supply voltage	Via basic device

Current measurement using LP current transformer	
Nominal input signal	333 mV
Measurement via low-power current transformers with a secondary voltage of (measuring range)	0 .. 400 mV
Channels	8 (2x4) · 2 systems (L1, L2, L3, N) · Single channels
Input impedance per channel	100 kΩ || 50 pF
Maximum Input Signal (Peak)	600 mVp
Overload for 1 s	1 V
Resolution	16 bit
Sampling frequency	8,14 kHz
Frequency of the fundamental oscillation	40 .. 70 Hz
Harmonics	1. .. 25. (odd only)

Residual current measurement (RCM)	
Nominal current	30 mA
Measuring range	0 .. 40 mA
Operating current	50 µA
Resolution	16 bit
Temperature coefficient	<50 ppm / °C
Maximum Input Signal (Peak)	85 mAp
Load	max. 4 Ω
Overload for 1 s	0,9 A
Permanent overload	0,3 A
RCM types	Type A, type B and B+ (using corresponding current transformers)

Temperature measurement				
Update time		200 ms		
Total load (sensor and cable)		max. 4 kΩ		
Cable		Up to 30 m (32.81 yd) not shielded Greater than 30 m (32.81 yd) shielded		
Suitable temperature sensor types		· KTY83, KTY84, · PT100, PT1000 (Class C according to IEC 60751)		
Measuring accuracy	**Temperature sensor type**	**Temp. range**	**Resistance range**	**Measurement uncertainty**
	KTY83	-55 .. +175 °C (-67 .. +347 °F)	500 Ω .. 2.6 kΩ	±1.5 % rng
	KTY84	-40 .. +300 °C (-40 .. +572 °F)	350 Ω .. 2.6 kΩ	±1.5 % rng
	PT100	-100 .. +500 °C (-148 .. +932 °F)	60 Ω .. 280 Ω	±1.5 % rng
	PT1000	-100 .. +500 °C (-148 .. +932 °F)	600 Ω .. 2.8 kΩ	±1.5 % rng

Analog measurement 0..20 mA	
Nominal current	0 .. 20 mA
Load	max. 4 Ω
Overload for 1 s	0,9 A
Permanent overload	0,3 A
Measuring accuracy	± (0,5 % rdg. + 100 µA)
Resolution	16 bit
Temperature coefficient	<50 ppm / °C
Sampling frequency	8,14 kHz

Interface and energy supply	
JanBus (proprietary)	Via bus connector
Supply voltage (via JanBus interface)	24 V

Connection capacity of the terminals - spring-type terminal (push in clambs) Connectible conductors. Only connect one conductor per terminal point!	
Single core, multi-core, fine-stranded (min. - max.)	0.14 mm^2 - 1.5 mm^2, AWG 26-16
Wire end ferrules with collar * according to DIN 46 228/4, (min. - max.)	0.25 mm^2 - 1 mm^2, AWG 22-17
Wire end ferrules without collar * according to DIN 46 228/4, (min. - max.)	0.25 mm^2 - 1.5 mm^2, AWG 22-16
Wire end ferrules: - Length of contact sleeve ** - Stripping length	 - 8 - 12 mm (0.31 - 0.47 in) - 10 - 12 mm (0.39 - 0.47 in)

* ... Applies to wire ferrules with a maximum plastic collar outer diameter of up to 3.5 mm (0.14 in).
**.. Depending on the type of wire ferrules used (ferrule manufacturer).

Module 800-MF8 LEDs	
Tx (send data)	Flash *orange* during operation and indicate cyclic data exchange.
Rx (receive data)	
P (power - power supply)	Lights up *green* when the power supply via the JanBus interface is correct.
E (error - initialization and malfunction)	Lights up *red* when initializing/starting the device and in the event of a fault.

INFORMATION

Detailed information on the functions and data of the basic device can be found in the usage information included with the basic device or available for download at www.janitza.com.

Performance characteristics of functions

Function	Symbol	Accuracy class - 333 mV nominal voltage	Display range
Total active power	P	0.5 (IEC61557-12)	0 .. 999 GW
Total reactive power	QA, Qv	1 (IEC61557-12)	0 .. 999 Gvar
Total apparent power	SA, Sv	0.5 (IEC61557-12)	0 .. 999 GVA
Total active energy	Ea	0.5 (IEC61557-12) 0.5S (IEC62053-22)	0 .. 999 GWh
Total reactive energy	ErA, ErV	1 (IEC61557-12)	0 .. 999 Gvarh
Total apparent energy	EapA, EapV	0.5 (IEC61557-12)	0 .. 999 GVAh
Phase current	I	0.2 (IEC61557-12)	0 .. 999 kA
Neutral conductor current calculated	INc	1.0 (IEC61557-12)	0.03 .. 999 kA
Power factor	PFA, PFV	1 (IEC61557-12)	0.00 .. 1.00
Current harmonics	Ih	Cl. 1 (IEC61000-4-7)	0 A .. 999 kA
THD of the current	THD_I	1.0 (IEC61557-12)	0 .. 999 %

Janitza electronics GmbH
Vor dem Polstück 6 | 35633 Lahnau
Germany

Tel. +49 6441 9642-0
info@janitza.com | www.janitza.com

Janitza